Journal of Testing and Evaluation
Table of Contents, Volume 18
1990

No. 1, January

Applicability of Modified J as a Fracture Parameter for Polycarbonate—MELISSA J. WERT, ASHOK SAXENA, AND HUGO A. ERNST 1
The Linearity of Clip Gages Used in Fracture Mechanics Tests—D. J. SMITH AND J. R. GORDON 14
Estimation of the C_t Parameter: Experimental Implications—CHUN-POK LEUNG, DAVID L. MCDOWELL, AND ASHOK SAXENA 25
Dynamic K Measurements in Three-Point-Bend Specimens—W. N. SHARPE, JR., AND J. M. SHAPIRO 38
Weathering Effects on Some Mechanical Properties of Polyvinyl Chloride Pipes—A. R. RAGAB, H. ALAWI, AND E. ADDASSI 45
Effect of Compressive Underloads and Tensile Overloads on Fatigue Damage Accumulation in 2024-T351 Aluminum—M. A. POMPETZKI, T. H. TOPPER, D. L. DUQUESNAY, AND M. T. YU 53
The Use of Miniaturized Tests to Predict Flow Properties and Estimate Fracture Toughness in Deformed Steel Plates—F. M. HAGGAG, W. L. SERVER, G. E. LUCAS, G. R. ODETTE, AND J. W. SHECKHERD 62
Bending Strength of Gray Cast Iron—TORU NOGUCHI 70
An Appraisal of Hydration Characteristics of Dead Burnt Dolomite Grains—S. K. DAS, A. GHOSH, P. K. DAS, AND G. BANERJEE 76
Technical Note: Measurements of Dynamic Young's Modulus in Short Specimens with the PUCOT—S. N. WICKSTROM AND A. WOLFENDEN 81

No. 2, March

Development of Analytical Methodology and a Report on Collaborative Study on the Determination of Morpholine, Cyclohexylamine, and Diethylaminoethanol in Aqueous Samples by Direct Aqueous Injection Gas Chromatography—MURUGAN MALAIYANDI AND MICHAEL J. GODDARD 87
Effect of Crystallographic Texture on Flexure Fatigue Properties of Ti-3A1-2.5V Hydraulic Tubing—STEVEN E. MEREDITH AND JOHN H. SCHEMEL 98
A Suggested Procedure for Combined Mode I–Mode III Fracture Toughness Testing—MOHAN MANOHARAN, JOHN P. HIRTH, AND ALAN R. ROSENFIELD 106
Optimal Stress Amplitude Selection in Estimating Median Fatigue Limits Using Small Samples—R. E. LITTLE 115
Measurement of Maximum Arrest Force in Performance Tests of Fall Protection Equipment—ANDREW C. SULOWSKI AND JAMES W. BRINKLEY 123
Hardness Gradients within Roll-Threaded Steel Nails—M. S. WHITE, T. E. MCLAIN, D. PADLA, AND B. KASAL 128
A Computer-Aided Image System for Analyzing Cracks Created by Nailing in Wood—PETER W. C. LAU AND YVON TARDIF 131
Technical Note: Historical Overview of Femoral Intramedullary Nailing—DAVID SELIGSON, M.D. 138

No. 3, May

Estimation of Characteristic Values of Fracture Toughness—STEPHEN SLATCHER 141
Cyclic Stress-Strain Behavior and Low Cycle Fatigue of Ti 6242—THANG BUI-QUOC, REHA GOMUC, ANDRE BIRON, HUU LUAN NGUYEN, AND REDA N. TADROS 160
Nondestructive Evaluation of In-Service Toughness Degradation for Cr-Mo-V Steam Turbine Rotor Steel—KAZUSHIGE KIMURA, TAKAO INUKAI, KIYOSHI SAITO, AND HIDEO KASHIWAYA 172
Influence of Overload Plastic Zone Size on Stress Corrosion Crack Growth Behavior of a Low Alloy Steel in 3.0% NaCl Solution—SUSIL K. PUTATUNDA AND VINODH VENUGOPAL 182
Use of Cantilever Specimens to Determine Microcreep Properties—JOSEPH S. SANTNER 191
A Method for Uniform Shear Stress-Strain Analysis of Adhesives—G. W. WYCHERLEY, S. A. MESTAN, AND IVAN GRABOVAC 203
Elasto-Plastic Fracture Characterization of Paving Materials at Low Temperatures—KAMYAR MAHBOUB 210
Relationships Between the Results of Nail Impact Bend Tests and Selected Nail Material Properties—M. S. WHITE, T. E. MCLAIN, AND D. PADLA 219

No. 4, July

Dynamic Loading: A New Microhardness Test Method—W. W. WEILER 229
Measuring the Stress Intensity Factor for Propagating Cracks with Strain Gages—JAMES W. DALLY AND ROBERT J. SANFORD 240
Experimental and Analytical Evaluation of the Mechanical Performance of a Gas-Fired Ceramic Radiant Tube at Steady-State—A. E. SEGALL, J. R. HELLMANN, AND P. STRZEPA 250
Behavior of Rubber-Based Elastomeric Construction Adhesive in Wood Joints—PATRICK J. PELLICANE 256
Instrumented Impactor for Testing Wood-Base Floor Panels—J. DOBBIN MCNATT AND LAWRENCE A. SOLTIS 265
Fatigue Behavior of a Cold-Rolled SAE Grade 945X HSLA Steel—M. T. YU, D. L. DUQUESNAY, AND T. H. TOPPER 274
Stress Intensity Factors for Side-Grooved Fracture Specimens—BRUCE D. MACDONALD AND JOSEPH J. PAJOT 281
An Approach to Predicting Long-Term Toughness, Strength, and Ductility of a Cr-Mo-V Steel Alloy Using Short-Term Tests—D. C. DAVIS 286
Plastic Strain Ratio (r) for Sheet Metal: Effect of Gage Length and Width Measurement Locations Using Reduced Section Specimens—J. A. TAYLOR AND D. K. SCHERRER 292
Technical Note: J_{Ic} Data Analysis Methods with a "Negative Crack Growth" Correction Procedure—Y. A. ROSENTHAL, R. L. TOBLER, AND P. T. PURTSCHER 301

No. 5, September

Crevice Corrosion Testing in Natural Seawater: Significance and Use of Multiple Crevice Assemblies—R. M. KAIN 309
Influence of Test Methodology on Fatigue Crack Propagation in Engineering Plastics—THOMAS R. CLARK, RICHARD W. HERTZBERG, AND JOHN A. MANSON 319
A Rapid Method for Measurement of Rolling Contact Fatigue Limit of Case-Hardened Gear Materials—BINGYUAN JIANG AND ERYU SHAO 328
Dynamic Strain-Aging and Neutron Irradiation Effects on Mechanical and Fracture Properties of A533B Class 1 PV Steel and 2.25Cr-1Mo Steel—SHEIKH T. MAHMOOD, KHALID M. AL-OTAIBI, YOUN H. JUNG, AND K. LINGA MURTY 332
Use of X-Ray Diffraction for Measuring Recrystallization of Low Carbon Steels for Tin Plate Application—KENNETH C. LIAO 338
A K_I Calibration for a Modified Single Edge Notched Tension Specimen—M. T. KIRK AND R. J. SANFORD 344
Influence of Contact Angles on the Leakage of Latex Condoms—GREGORY B. DAVIS AND L. W. SCHROEDER 352
Force Plate for Corrugated Container Vibration Tests—THOMAS J. URBANIK 359
Technical Note: Impact Energy/Specimen Thickness Relationship for Two Turbine Steels—S. A. BASHU 363
Discussion of "Chevron-Notched Specimens for Fracture Toughness Measurements Independent of R-Curve Effects," with Author's Closure—D. MUNZ AND L. M. BARKER 369

No. 6, November

Characterization of the Effects of Large Unloading Cycles on the Ductile Tearing Toughness of HSLA Steel—JAMES A. JOYCE 373
Probability, Confidence, and Sample Size in Fatigue Testing—N. PARIDA, S. K. DAS, P. C. GOPE, AND O. N. MOHANTY 385
Fracture of Defect Foam Core Sandwich Beams—HANS L. GROTH AND DAN ZENKERT 390
A Quality Control Test for Selecting Materials to Arrest Fast-Running, Full-Thickness Cracks—P. B. CROSLEY AND E. J. RIPLING 396
Damage Tolerance Analysis of Multiple-Site Cracks Emanating from Hole Array—TOSHIHIKO NISHIMURA, YOSHIHARU NOGUCHI, AND TETSUO UCHIMOTO 401
Changes in Cotton Fabric Bending Properties As a Result of Laboratory Wear—JOSHUA OSAYANDE UKPONMWAN 408
SYMPOSIUM ON QUANTITATIVE METHODS IN THE ASSESSMENT OF STRUCTURAL DEFECTS
Introduction—A. P. BERENS AND R. T. WATANABE 420
Fatigue Crack Characterization by Ultrasonic Inspection—D. K. REHBEIN, R. B. THOMPSON, AND O. BUCK 421
Imaging Short Fatigue Cracks with the Gel Electrode—WILLIAM J. BAXTER 430
Durability Assessment Based on Initial Material Quality—P. E. MAGNUSEN, A. J. HINKLE, W. T. KAISER, R. J. BUCCI, AND R. L. ROLF 439
Bore Inspection and Life Evaluation of Vintage Steam Turbine/Generator Rotors—H. R. JHANSALE AND DONALD R. MCCANN 446
Technical Note: A Simplified Method for Determining Relaxation Time and Electrical Resistivity from Eddy-Current Decay Measurements—G. L. RICHARDS AND K. T. HARTWIG, JR. 454